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What is claimed is:

1. A variable displacement mechanism in a scroll type compressor having a movable scroll member and a fixed scroll member, the movable scroll member and the fixed scroll member defining compression chambers therebetween, the compression chambers reducing in volume as the compression chambers are moved radially and inwardly by orbiting the movable scroll member relative to the fixed scroll member, whereby gas is compressed, a suction pressure region being defined in the scroll type compressor, the variable displacement mechanism comprising:

a by-pass passage provided for interconnecting the compression chamber in a process of volume reduction with the suction pressure region, the by-pass passage including a first valve hole;

a valve chamber provided for communicating with the first valve hole, the valve chamber forming a valve seat surface around an opening of the first valve hole;

a valve plate having an end surface that faces the valve seat surface, the valve plate being arranged in the valve chamber so as to selectively move between an open position, where the end surface is separated from the valve seat surface to open the first valve hole, and a close position, where the end surface contacts the valve seat surface to close the first valve hole; and

an actuator actuating the valve plate.

2. The variable displacement mechanism according to claim 1, wherein the by-pass passage is configured to continuously interconnect the compression chamber with the suction pressure region until the compression chamber in the process of volume reduction reduces in volume to a predetermined value in a state where the valve plate is located at the open position.

3. The variable displacement mechanism according to claim 2, wherein the first valve hole partially constitutes the by-pass passage on a side of the compression chamber with respect to the valve chamber, the first valve hole being plurally provided, each of the first valve holes interconnecting the compression chamber with the valve chamber at a position that is different from each other, different portions of the end surface of the valve plate simultaneously opening and closing a plurality of the first valve holes.

4. The variable displacement mechanism according to claim 3, wherein the valve plate simultaneously opens and closes a second valve hole that partially constitutes the by-pass passage on a side of the suction pressure region with respect to the valve chamber.

5. The variable displacement mechanism according to claim 1, wherein the fixed scroll member includes a fixed base plate and a fixed spiral wall that

extends from the fixed base plate, the valve chamber being defined on a side of a back surface of the fixed base plate, the valve seat surface of the valve chamber being formed by the fixed base plate, the valve plate being arranged along the fixed base plate.

6. The variable displacement mechanism according to claim 5, wherein a discharge chamber is defined in the scroll type compressor, the valve plate having one of a complete annular shape and an incomplete annular shape that is an annular shape of which a part is removed therefrom, a discharge passage being formed at a center of the valve plate for discharging the compressed gas from the compression chamber to the discharge chamber.

7. The variable displacement mechanism according to claim 1, wherein a seal member is arranged on one of the end surface of the valve plate and the valve seat surface for sealing the by-pass passage in a state where the valve plate is located at the close position.

8. The variable displacement mechanism according to claim 1, wherein a discharge pressure region is defined in the scroll type compressor, the valve plate being arranged to divide the valve chamber into a communication chamber on the side of the first valve hole and a back pressure chamber on a side opposite to the side of the first valve hole, the communication chamber partially constituting the

by-pass passage, the actuator including an urging spring that urges the valve plate toward the open position, a first control passage that interconnects the back pressure chamber with the discharge pressure region, and a control valve that regulates an opening degree of the first control passage based on an external command.

9. The variable displacement mechanism according to claim 8, wherein the valve plate is located at the close position when the control valve opens the first control passage, the valve plate being located at the open position when the control valve closes the first control passage.

10. The variable displacement mechanism according to claim 9, wherein the actuator also includes a second control passage that interconnects the suction pressure region with the back pressure chamber, the control valve regulating an opening degree of the second control passage based on the external command, the valve plate being located at the open position when the control valve opens the second control passage.

11. The variable displacement mechanism according to claim 1, wherein the scroll type compressor is used for a vehicle air conditioner, the scroll type compressor being a hybrid type that is selectively driven by power from an engine for traveling a vehicle and by power from an internal electric motor.

12. A scroll type compressor that defines a suction pressure region comprising:

a movable scroll member;

a fixed scroll member, compression chambers being defined by the movable scroll member and the fixed scroll member, the compression chambers reducing in volume as the compression chambers are moved radially and inwardly by orbiting the movable scroll member relative to the fixed scroll member, whereby gas is compressed; and

a variable displacement mechanism including:

a by-pass passage provided for interconnecting the compression chamber with the suction pressure region, the by-pass passage including a first valve hole;

a valve chamber provided for communicating with the first valve hole, the valve chamber forming a valve seat surface around an opening of the first valve hole;

a valve plate having an end surface that faces the valve seat surface, the valve plate being arranged in the valve chamber so as to selectively move between an open position, where the end surface is separated from the valve seat surface to open the first valve hole, and a close position, where the end surface contacts the valve seat surface to close the first valve hole; and

an actuator actuating the valve plate.

13. The scroll type compressor according to claim 12, wherein the by-pass passage is configured to continuously interconnect the compression chamber with the suction pressure region until the compression chamber in the process of volume reduction reduces in volume to a predetermined value in a state where the valve plate is located at the open position.

14. The scroll type compressor according to claim 13, wherein the first valve hole partially constitutes the by-pass passage on a side of the compression chamber with respect to the valve chamber, the first valve hole being plurally provided, each of the first valve holes interconnecting the compression chamber with the valve chamber at a position that is different from each other, different portions of the end surface of the valve plate simultaneously opening and closing a plurality of the first valve holes.

15. The scroll type compressor according to claim 14, wherein the valve plate simultaneously opens and closes a second valve hole that partially constitutes the by-pass passage on a side of the suction pressure region with respect to the valve chamber.

16. The scroll type compressor according to claim 12, wherein the fixed scroll

member includes a fixed base plate and a fixed spiral wall that extends from the fixed base plate, the valve chamber being defined on a side of a back surface of the fixed base plate, the valve seat surface of the valve chamber being formed by the fixed base plate, the valve plate being arranged along the fixed base plate.

17. The scroll type compressor according to claim 16, wherein a discharge chamber is defined in the scroll type compressor, the valve plate having one of a complete annular shape and an incomplete annular shape that is an annular shape of which a part is removed therefrom, a discharge passage being formed at a center of the valve plate for discharging the compressed gas from the compression chamber to the discharge chamber.

18. The scroll type compressor according to claim 12, wherein a seal member is arranged on one of the end surface of the valve plate and the valve seat surface for sealing the by-pass passage in a state where the valve plate is located at the close position.

19. The scroll type compressor according to claim 12, wherein a discharge pressure region is defined in the scroll type compressor, the valve plate is arranged to divide the valve chamber into a communication chamber on the side of the first valve hole and a back pressure chamber on a side opposite to the side of the first valve hole, the communication chamber partially constituting the

by-pass passage, the actuator including an urging spring that urges the valve plate toward the open position, a control passage that interconnects the back pressure chamber with the discharge pressure region, and a control valve that regulates an opening degree of the control passage based on an external command.

20. The scroll type compressor according to claim 12, wherein the scroll type compressor is used for a vehicle air conditioner, the scroll type compressor being a hybrid type that is selectively driven by power from an engine for traveling a vehicle and by power from an internal electric motor.